

7 Transport in plants – Part 1 —Answers

Answers

Work through these after trying the questions yourself.

7.1 (a) water and mineral ions \ (b) dissolved food / sugars.

7.2 With no contents and no end walls they form one long open tube, so water can flow through quickly with little resistance.

7.3 Lignin.

7.4 The apoplast pathway and the symplast pathway.

7.5 It forces all the water to pass through a cell membrane, so the plant can control which substances enter the xylem.

7.6 It does the living work for the sieve tube and loads sugars into it.

7.7 Xylem only needs to carry water upwards, so dead, hollow tubes form an open pipe that lets water flow fast with no obstruction. Phloem must *actively* load and move sugars, which needs living cells (and their companion cells) to do that work.